

Notice of Allowability

Application N .

10/645,912

Examiner

Ching Chang

Applicant(s)

KANAMARU ET AL.

Art Unit

3748

-- **Th MAILING DATE of this communication appears n the cover sheet with the correspondence address--**

All claims being allowable, PROSECUTION ON THE MERITS IS (OR REMAINS) CLOSED in this application. If not included herewith (or previously mailed), a Notice of Allowance (PTOL-85) or other appropriate communication will be mailed in due course. **THIS NOTICE OF ALLOWABILITY IS NOT A GRANT OF PATENT RIGHTS.** This application is subject to withdrawal from issue at the initiative of the Office or upon petition by the applicant. See 37 CFR 1.313 and MPEP 1308.

1. ☐ This communication is responsive to _____.
2. ☒ The allowed claim(s) is/are 1-14.
3. ☒ The drawings filed on 22 August 2003 are accepted by the Examiner.
4. ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
 - a) ☒ All b) ☐ Some* c) ☐ None of the:
 1. ☒ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this national stage application from the International Bureau (PCT Rule 17.2(a)).

* Certified copies not received: _____.

Applicant has THREE MONTHS FROM THE "MAILING DATE" of this communication to file a reply complying with the requirements noted below. Failure to timely comply will result in ABANDONMENT of this application.

THIS THREE-MONTH PERIOD IS NOT EXTENDABLE.

5. ☐ A SUBSTITUTE OATH OR DECLARATION must be submitted. Note the attached EXAMINER'S AMENDMENT or NOTICE OF INFORMAL PATENT APPLICATION (PTO-152) which gives reason(s) why the oath or declaration is deficient.
 6. ☐ CORRECTED DRAWINGS (as "replacement sheets") must be submitted.
 - (a) ☐ including changes required by the Notice of Draftsperson's Patent Drawing Review (PTO-948) attached
 - 1) ☐ hereto or 2) ☐ to Paper No./Mail Date _____.
 - (b) ☐ including changes required by the attached Examiner's Amendment / Comment or in the Office action of Paper No./Mail Date _____.
- Identifying indicia such as the application number (see 37 CFR 1.84(c)) should be written on the drawings in the front (not the back) of each sheet. Replacement sheet(s) should be labeled as such in the header according to 37 CFR 1.121(d).
7. ☐ DEPOSIT OF and/or INFORMATION about the deposit of BIOLOGICAL MATERIAL must be submitted. Note the attached Examiner's comment regarding REQUIREMENT FOR THE DEPOSIT OF BIOLOGICAL MATERIAL.

Attachment(s)

1. ☒ Notice of References Cited (PTO-892)
2. ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3. ☒ Information Disclosure Statements (PTO-1449 or PTO/SB/08),
Paper No./Mail Date 08/22/2003
4. ☐ Examiner's Comment Regarding Requirement for Deposit
of Biological Material
5. ☐ Notice of Informal Patent Application (PTO-152)
6. ☐ Interview Summary (PTO-413),
Paper No./Mail Date _____.
7. ☒ Examiner's Amendment/Comment
8. ☐ Examiner's Statement of Reasons for Allowance
9. ☐ Other _____.

DETAILED ACTION***Reasons For Allowance***

1. The following is an examiner's statement of reasons for allowance:

Regarding claims 1 and 12, the claimed combination including the limitations directed to the specifics of a controller and a method of using said controller for a lift characteristic changing mechanism, to change a lift characteristic of the intake valve or the exhaust valve of an internal combustion engine, the said controller calculates a target operation value of the lift characteristic changing mechanism; calculates a realizable range of the operation value which can be realized by the lift characteristic changing mechanism, based on a controlled variable that can be given to the lift characteristic changing mechanism and at least one parameter related to an environment surrounding the lift characteristic changing mechanism; and calculates a new target operation value of the lift characteristic changing mechanism to be within the realizable range of the operation value when the target operation value is not within the realizable range of the operation value, is not disclosed or rendered obvious the art of record.

Regarding claims 7 and 13, the claimed combination including the limitations directed to the specifics of a controller and a method of using said controller for a first and a second lift characteristic changing mechanisms, to change a lift characteristic of the intake valve or the exhaust valve of an internal

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combustion engine, the said controller calculates a target operation value of each of the first and second lift characteristic changing mechanisms; calculates a realizable range of the operation value that can be realized by each of the first and second lift characteristic changing mechanisms, based on at least one condition related to an operation of said each lift characteristic changing mechanism; and calculates a new target operation value to be within the realizable range of the operation value when the target operation value is not within the realizable range of the operation value, is not disclosed or rendered obvious the art of record.

2. Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."

Conclusion

3. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

- Shimizu et al. (US Patent No. 6,425,357).
- Nohara et al. (US Patent No. 6,397,800).
- Nakamura et al. (US Patent No. 6,390,041).
- Yoshiki et al. (US Patent No. 6,330,869).

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- Regueiro (US Patent No. 6,167,854).

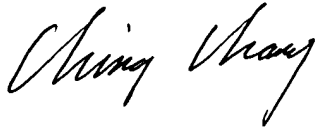
4. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Ching Chang whose telephone number is (703)306-3478. The examiner can normally be reached on M-Th, 7:00 AM -5:00 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Thomas Denion can be reached on (703)308-2623. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

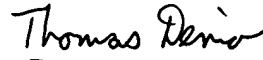
Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

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Patent Examiner



Ching Chang



THOMAS DENION
SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 3700